MANITOBA

ANNUAL REPORT

1982

The Environmental Management Division

1982 Annual Report of the Environmental Management Division

Her Honour,

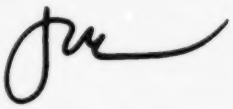
The Honourable Pearl McGonigal

Lieutenant-Governor of Manitoba

Your Honour:

It is my pleasure to present to you the 1982 Annual Report of the Environmental Management Division. This report details the Division's accomplishments and activities for the calendar year ending December 31, 1982.

Yours sincerely,



Jay Cowan

Minister responsible for

Environmental Management

Hon. Jay Cowan,

Minister responsible for

Environmental Management

Dear Sir:

For your consideration, the Environmental Management Division's 1982 Annual Report is attached. It contains a summary of the Division's activities for the calendar year ending December 31, 1982.

Respectfully submitted,

Ron McBryde

Deputy Minister

Environmental Management

Environmental Management Division

Annual Report 1982

Organization Chart

Introduction

Environmental Control Services

- Environmental Control Programs
- Inspection Services
- Environmental Impact Assessment

Environmental Management Services

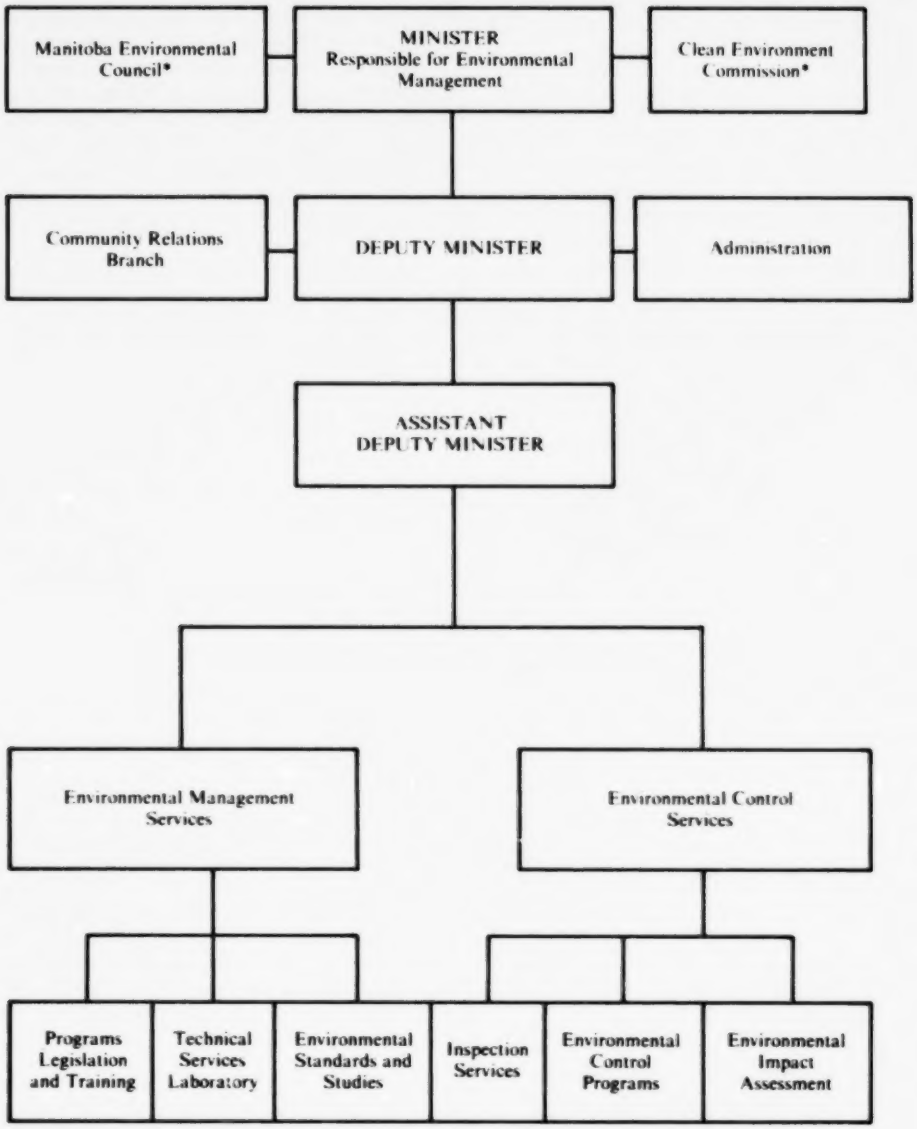
- Programs, Legislation and Training
- Environmental Standards and Studies
- Technical Services Laboratory

Administration Branch

Community Relations Branch

Organization Chart

Environmental Management Division



*The Clean Environment Commission and the Manitoba Environmental Council are not included in this report because each are required by statute to prepare separate annual reports.

Introduction

ASSISTANT DEPUTY MINISTER:
W. GEORGE BOWEN
1 SUPPORT STAFF

ENVIRONMENTAL CONTROL SERVICES
DIRECTOR: CARL B. ORCUTT
1 SUPPORT STAFF

ENVIRONMENTAL MANAGEMENT SERVICES
DIRECTOR: A. GRANT McLEOD
1 SUPPORT STAFF

THE ENVIRONMENTAL MANAGEMENT DIVISION of the Department of Environment, Workplace Safety and Health, has the mandate for the administration and enforcement of the Clean Environment Act and its eleven regulations; twenty-two regulations under the Public Health Act; enforcement of Clean Environment Commission Orders related to specific discharges into the air, water and soil; and administration of the Environmental Assessment and Review Process, as established by government policy in November 1975. In addition, the Division also provides technical and support services to the Clean Environment Commission and the Manitoba Environmental Council.

This mandate reflects both an environmental and environmental health responsibility. Programs administered by the Division are directed not only toward minimizing the threat of pollution in the natural environment, but also toward minimizing the risk to public health as a result of environmental pollution.

In order to achieve this mandate the Environmental Management Division has established a functional organization divided into an operational branch and a support branch.

The operational branch, ENVIRONMENTAL CONTROL SERVICES, provides for the technical evaluation and assessment of site specific discharges, regulation enforcement, public health inspection, and environmental impact assessment. The Branch is broken down into the following three operating units: Environmental Control Programs, Inspection Services and Environmental Impact Assessment.

The support branch, ENVIRONMENTAL MANAGEMENT SERVICES, provides the necessary support services required to ensure the effective delivery of Divisional programs. The Branch conducts ambient monitoring to set standards for environmental quality, provides laboratory services which supply all the analytical needs of the Division and maintains a management support service — in program development, regulation and legislation review, and co-ordination of all in-service and extension training activities. The Branch is broken down into the following three operational units: Programs, Legislation and Training, Environmental Standards and Studies, and W.M. Ward Technical Services Laboratory.

Environmental Control Services

Environmental Control Programs

CHIEF: L. Strachan
4 SECTION HEADS
25 ENVIRONMENT OFFICERS
Environmental Control Programs is organized into four sections which are: Air Pollution Control; Water Pollution Control; Waste Management; Food Protection.

Air Pollution Control

The Air Pollution Control Section is primarily concerned with ensuring a clean, healthy and aesthetically pleasing atmosphere for all Manitobans. The objectives are achieved by:

- administering and enforcing provisions of The Clean Environment Act regarding emissions of air contaminants;
- inspecting industrial sources of air pollution in the province;
- recommending emission standards to the Clean Environment Commission;
- investigating all air pollution and sound/vibration complaints registered by citizens;
- sampling of smoke stacks on a routine basis;
- providing technical assistance to municipal, provincial, and federal governments when developing and enforcing programs and policies consistent with the Guidelines for Sound Pollution established by the Environmental Management Division;
- evaluating public exposure to potentially hazardous contaminants (such as carbon monoxide, nitrous fumes, ozone, particulates, or odours) within non-occupational indoor environments (including dwellings, ice arenas, and parking garages) on specific request; and
- providing assistance to homeowners with urea formaldehyde foam insulation by means of Drager surveys and CEA 555 Air Monitor surveys.

The 1982 activity level was similar to previous years with the following changes: The Provincial testing of urea formaldehyde foam insulation in homes was wound down early in 1982 due to the start-up of a similar federal government program. There was an increase in the number of indoor community surveys conducted — which now includes the testing for ozone from air-cleaners. This year the activity summary also includes 230 odor surveys and 85 visible emission surveys which were not previously listed. During the year two specific episodes of odor affected the Winnipeg area. One was caused by decomposing beets in a field causing a nauseating smell to impinge on the southern part of the city. The other was a "bad eggs" odor which was considered to have originated from the Lodgepole Gas Well in Alberta which was out of control and releasing large amounts of hydrogen sulphide gas.

Activity Summary	1981	1982
Environmental Reports Prepared	17	10
Public Hearings Attended	9	9
Inspections Completed	350	400
Complaints Received	120	200
Stack Sampling Surveys:		
a) conducted	9	8
b) observed	3	4
Odor Surveys Conducted	65	230
Visible Emission Surveys Conducted	33	85
Noise/Vibration Surveys Conducted	25	45
Indoor Community Surveys Conducted	23	54
Urea Formaldehyde Foam Insulation Homes Tested	1500	400

Water Pollution Control

The responsibilities of Water Pollution Control concern the protection of the aquatic ecosystem and groundwater and the provision of safe drinking water for the use and enjoyment of all Manitobans. The responsibilities are addressed through the administration of provisions of the Clean Environment Act and Public Health Act. Activities entail:

- advising the Clean Environment Commission and the Minister on technical aspects of wastewater treatment and disposal and the environmental effects which can be predicted from such activities;
- recommending conditions to the Clean Environment Commission for use in developing Orders;
- monitoring wastewater discharges to determine the degree of compliance with Clean Environment Commission Orders;
- evaluating proposed water and wastewater works for public health concerns in preparation for approval by the Minister of Health;
- providing monitoring and technical assistance to Dental Health Services respecting fluoridation of municipal drinking water;
- reviewing mine site rehabilitation schemes;
- investigating complaints registered by citizens; and
- providing technical assistance to municipal, provincial and federal governments respecting various aspects of water treatment and distribution as well as wastewater collection, treatment and disposal.

Water Pollution Control Statistics

ACTIVITY	Industrial Wastewater		Municipal Wastewater		Water Treatment Plants		TOTALS	
A) Assessments & Recommendations	1981	1982	1981	1982	1981	1982	1981	1982
Proposals Received	2	1	16	10	1	0	19	11
Reports Submitted	3	3	10	10	0	0	13	13
Proposals Under Review	7	5	46	43	6	6	59	54
Variations Requested	0	0	3	9	0	0	3	9
Variations Processed	NA	0	NA	7	NA	0	NA	7
Variations Under Review	NA	0	NA	3	NA	0	NA	3
Appeals Filed	NA	0	NA	0	NA	0	NA	0
Appeals Processed	0	0	3	3	0	0	3	3
Appeals Under Review	NA	0	NA	3	NA	0	NA	3
Hearings Attended	1	3	11	8	0	0	12	11
C.E.C. Meetings Attended	NA	0	NA	7	NA	0	NA	7
Inspections Conducted	NA	5	NA	14	NA	3	NA	22
Requests for Information	NA	9	NA	37	NA	1	NA	47
Suspension Requests	NA	0	NA	6	NA	0	NA	6
B) Monitoring Wastewater								
Orders for Enforcement	35	37	244	246	4	4	283	287
Inspections Conducted	75	179	392	510	2	3	469	692
Complaints Investigated	3	3	11	17	1	1	15	21
Violations Detected Client Data	NA	115	NA	7	NA	0	NA	122
Violations Detected ECS Data	16	57	24	33	0	0	40	90
Prosecutions Initiated	0	3	0	4	0	0	0	7
Successful Prosecutions	0	1	0	1	0	0	0	2
Requests for Assistance	NA	2	NA	37	NA	0	NA	39

Water Pollution Control Statistics

ACTIVITY	Water Treatment Plants		Water Distribution Systems		Sewage Collection Systems		TOTALS	
C) Public Health Act Approvals	1981	1982	1981	1982	1981	1982	1981	1982
Proposals Received for Approval	NA	15	NA	10	NA	7	NA	32
Approvals Recommended	NA	18	NA	10	NA	9	NA	37
Unacceptable Proposals	NA	20	NA	0	NA	0	NA	20
Proposals Under Review	NA	24	NA	15	NA	5	NA	44
Proposals Received for Comment	NA	5	NA	12	NA	11	NA	28
Reviews Completed	NA	5	NA	7	NA	9	NA	21
Reviews Underway	NA	2	NA	5	NA	5	NA	12
Proposals held in Abeyance	NA	2	NA	2	NA	0	NA	4
Proposals Withdrawn	NA	2	NA	0	NA	0	NA	2
Certificates for Enforcement	NA	16	NA	12	NA	19	NA	47
Inspections Conducted	NA	113	NA	47	NA	13	NA	173
Complaints Investigated	NA	0	NA	0	NA	1	NA	1
Violations Detected	NA	0	NA	0	NA	2	NA	2
Prosecutions Initiated	NA	0	NA	0	NA	0	NA	0
Successful Prosecutions	NA	2	NA	0	NA	0	NA	2
Requests for Assistance	—	—	—	—	—	—	NA	139
Certificates transferred to PHI	NA	9	NA	4	NA	0	NA	13

NOTE: Methods of keeping records were changed this year and 1981 data is not comparable

D) Water Supply Operations

Inspections Conducted	NA	16
Complaints Investigated	NA	0
Requests for Assistance/Information	NA	244

E) Fluoridated Water Supplies

Water Plants Fluoridating	37	37
Samples Submitted	929	883
Percent Outside Acceptable Range	18.9	15.4
Inspections Conducted	61	52
Complaints Investigated	1	0
Requests for Assistance	NA	70

Waste Management

The responsibility of the Waste Management Section is to provide a comprehensive response and consultation service related to solid and hazardous waste material generated in the Province of Manitoba and to provide an emergency response capability to environmental accidents.

This services includes:

- a 24 hour 7-day-a-week capability to respond to chemical releases to the environment from accidents, spills, fires and leaks.
- administration of the provisions of the Waste Disposal Ground Regulation applicable to Class I sites.
- provision of a technical consultation service to municipalities and industry on the land disposal of solid wastes.
- administration of the Storage and Handling of Gasoline and Associated Products Regulation.
- advising on the safe handling and storage of hazardous materials.
- provision of technical advice and assistance as necessary for the proper disposal of hazardous materials.
- the operation of the Provincial Hazardous Chemical Storage Facility at Gimli.

(a) Environmental Accidents

The use of the new Environmental Accident emergency telephone number 944-4888 ensured the provision of a 24-hour 7-day-a-week response to accidents throughout the province. Additional informational material on this service was distributed by Waste Management staff and Public Health Inspectors.

The total number of calls received through the emergency reporting system increased from 163 in 1981 to 262 in 1982. This 60% increase is partially attributed to the continuing publicity campaign to acquaint industry and the public with the Environmental Emergency Program.

Of the actual 167 accidents which were reported in 1982 99 involved petroleum and 68 involved other chemicals.

During 1982 plans were initiated to co-ordinate the emergency response system of the Environmental Management Division and the Workplace Safety and Health Division. The new procedure will include a joint call-out procedure, shared use of resources and a closer co-ordination of field operations.

(b) Storage and Handling of Gasoline and Associated Product Regulation MR 156/80.

Under this Regulation, standards are established for the installation, testing and operation of petroleum storage facilities.

The major activity under the gasoline regulation program in 1982 was to eliminate a backlog of tank installation projects which were either not in compliance with MR 156/80 or had not been inspected. During 1982, 285 petroleum storage facilities were inspected and 143 new installation project files were completed, including the backlog which had accumulated. In addition, 115 new installations were started in Manitoba during the year.

Waste Management personnel investigated 23 cases of petroleum contamination which was suspected to have originated from storage tank system leaks. In addition to these, leaking tanks were removed in 11 locations.

A number of amendments have been proposed to MR 156/80 to improve the preventative aspect of the regulations. It is anticipated that a final decision on the amendments will be made during 1983.

(c) Solid Waste

Under the Waste Disposal Ground Regulation Manitoba Regulation 208/76, 14 sanitary landfills are designated as Class I sites. At least one inspection was made to each of these sites during 1982 for compliance with the Regulation

with problem sites being inspected on a more regular basis. Legal action against a town for non-compliance with Manitoba Regulation 208/76 was initiated. The case is pending in Provincial Court.

During the year a total of six variation requests from Manitoba Regulation 208/76 were received, and five of these requests were deemed acceptable and approved.

A review of the Waste Disposal Ground Regulation was initiated. The redraft will address industrial and private waste disposal grounds as well as the disposal of special and hazardous wastes.

A Federal-Provincial study was awarded to a Winnipeg Consulting Engineering Company to identify and verify the locations of active and inactive land disposal sites and the nature and quantity of the wastes they have accepted. The final report of this study was released early in 1983.

A one day seminar was presented to the Public Health Inspectors in Manitoba providing an overview of waste management practices particularly related to land disposal.

A number of problems associated with the effects of methane gas produced at land disposal sites were encountered. These occurred in buildings constructed either close to active sites or close to or on top of inactive sites.

Assistance was provided to five municipalities in the form of investigation of possible new sites or investigation of disposal problems. A similar service was provided to three industrial operations with unique solid waste disposal problems.

(d) Environmental Land Use

This program involves the review of land development projects to minimize environmental problems and to protect the general public. During 1982, 8 Development Plans, 6 Basic Planning Statements and 5 Subdivision Proposals were reviewed. A Municipal Board Hearing in regard to the use of land for a new waste disposal ground was attended.

An investigation was undertaken on the disposal, either on site or at a waste disposal ground, of liquid wastes generated at a Trailer Court operated during the summer months.

With attention being drawn to the increasing number of problems associated with building development near active and inactive waste disposal grounds, a policy was developed as to recommended separations.

(e) Hazardous Materials

Continuing emphasis was placed in 1982 on the educational aspects of the Hazardous Material Program with formal presentations given to government agencies, fire departments, hospitals and schools.

Fourteen detonations of reactive chemicals took place utilizing the services of outside organizations such as the R.C.M.P., Winnipeg Police, Winnipeg Water Waste and Disposal Division, City of Brandon and L.G.D. of Consol. Consultation services were provided to private industry, the Federal Government, schools and universities with regard to hazardous material storage, handling, transportation and disposal. In particular, procedures were established for the disposal of chemotherapeutics at Winnipeg hospitals and The Pas.

Approximately 150 assignments involving specific material collection and disposal operations were handled. Some recycling of waste material was accomplished by finding new users for certain materials. In March, accumulated chemicals at the Gimli Hazardous Waste Storage Facility were removed for disposal at a hazardous waste disposal facility in the United States.

Investigations and surveys of industries were conducted to evaluate methods of chemical handling and storage. In some cases this was done in cooperation with other Sections of the Division.

Food Protection Operations

Food Protection programs are designed to provide all Manitobans with the highest possible level of protection from unsafe or unwholesome food-stuffs, and to prevent or limit adverse effects on the environment arising from food industry operations. This two-fold objective is attained by:

- detecting and controlling the microbiological, chemical and physical contamination in the production, processing, packaging, marketing and service of all food products;
- resolving all food related complaints;
- investigating reports of food borne disease outbreaks and providing results to complainants;
- participating in food and pesticide industry education programs, and
- providing technical support service in the pesticide field.

Under agreement with the Cadham Provincial Laboratory, arrangements were made to conduct bacteriological tests on food samples submitted as a result of specific complaints and those taken as part of a monitoring program of potentially hazardous food groups. Testing priority was given to the ready-to-eat foods with meat or poultry ingredients, and soft-serve ice cream. Emphasis was also placed on foods displayed to the public in food service establishments and retail food stores. Pesticide and heavy metal contamination in foods were also monitored.

A general safety and quality assessment service for all food items was provided, including the investigation of food borne disease outbreaks. Efforts were made to improve the reporting and investigation of food borne disease incidents, co-operatively with the Provincial Department of Health.

Leadership was provided in forming an expert committee of industry, consumers and regulatory agency representatives to examine and recommend action to reduce the salmonella problem in foods.

Particular attention was given to ensuring that all complaints are investigated fully and that the results are provided to the complainant. Foreign material such as glass, metal and insects in foods is continuing to be reported and preventative measures are ongoing with the food manufacturing and processing industry in an effort to reduce these occurrences.

Twenty nine rural red meat slaughterhouses operate with inspection and approval of animals for health/safety and under the Federal/Provincial Domestic Meat Inspection Agreement. One poultry plant is included in this program.

Leadership and direct participation in food industry education programs in cooperation with industry organizations and other control agencies was provided. Both printed and audiovisual materials were utilized. Programs were directed to:

- food service operations,
- meat processors,
- bottling plants,
- educational institutions, and
- consumer groups.

The approval of chemicals and the monitoring of application procedures of all pesticides involving municipal use was carried out under regulations under The Clean Environment Act, or Orders issued by the Clean Environment Commission.

General technical support service in the pesticide field was provided, particularly in assessing the impact of the Clean Environment Commission Mosquito Control Report.

In cooperation with the Department of Agriculture, education programs were held prior to licensing of commercial pesticide dealers and/or applicators.

Technical and supervisory input was provided to the pesticide container recycling pilot program which was conducted this summer in ten municipalities in south-central Manitoba. Continuing programs in this area are being examined.

Food Protection Statistics

	1981	Number of Persons Attending	1982	Number of Persons Attending
Food Educational Seminars Held	16	593	9	482
Pesticide Educational Seminars Held	4	150	9	836
Food Samples Tested For Bacteria	113		290	
Food Tested For Pesticides	352		326	
Food Complaint Samples Tested (Non-Bacterial)	109		115	

Radiation Protection Services

In 1982 the Radiation Protection Section (RPS) of the Manitoba Cancer Foundation continued administration of X-Ray Safety Regulation 207/79 under the Public Health Act and responded to concerns and inquiries respecting non-ionizing radiation safety, for the Environmental Management Division.

Under the X-Ray Safety Regulation, the major work of the RPS continued to be the survey of the x-ray units in service in the province, registration of new x-ray installations and provision of consulting services to the Environmental Management Division on ionizing and non-ionizing radiation in areas of request. The RPS also continued to act as the intermediary of the mandatory TLD plaque/film badge monitoring service in use by all x-ray workers in the province. This latter responsibility includes monitoring the use of the service by the 500 employee groups subject to radiation protection, registering or deregistering groups as appropriate, investigating all undue exposure and compiling an annual summary of all reported exposures. In the area of non-ionizing radiation safety, survey techniques were established to monitor radio-frequency and microwave emissions, therapeutic ultrasound equipment performance, ultraviolet light hazard levels, and laser performance standards.

Other activities included response to public inquiry on radiation-related matters, and the delivery of radiation safety related lectures on request. Emergency response to incidents related to isotope licenses and radioisotope transport was provided. The RPS also conducted wipe test analysis for Atomic Energy Control Board (AECB) licenses, and isotope licensee inspection of remote facilities as agreed with AECB approval. Inspection of x-ray facility barrier design and installation for new facilities continued as in the past.

Radiation Protection Activities

ACTIVITY	1981	1982
Protective Barrier Room Design Approvals	51	54
Protective Barrier Installation Inspections	33	17
Dosimetry Exposure Investigations	86	64
Wipe Sample Analyses	48	68
Response to Public Inquiries	77	165
Radiation Safety Lectures	4	8
Mail-In Dental Unit Checks	483	414
Non-Ionizing Device Surveys	—	643
X-Ray Machine Inspection	640	731

Inspection Services

Chief: A. Symko
6 Regional Supervisors
40 District Public Health Inspectors
3.5 Support Staff

The Inspection Services' programs are directed toward the prevention of the spread of communicable diseases. The programs also include activities that are aimed at protecting and preserving the environment.

These objectives are achieved through:

- regular inspections of food related industries, bathing premises, barbershops, non-institutional care facilities, camps, campgrounds, hotels and motels, water supplies and waste disposal systems;
- responding to public complaints and inquiries for information; and,
- securing compliance with various statutes, regulations, bylaws, and Clean Environment Commission Orders.

Activity in most of the 23 programs delivered by Inspection Services sustained a level of consistency for the third consecutive year, although some variance was noted.

The number of restaurant inspections in 1982 witnessed a decrease from 5,510 to 4,745. This decrease was a direct result of the increased educational efforts of the public health inspectors. The intensified educational activity resulted in more restaurants being in compliance therefore fewer reinspections were necessary.

There was increased surveillance of bathing premises from 1,470 to 1,563. Safety and bacteriological standards were improved. One drowning was recorded in permit-issued facilities during the year.

Citizen complaints, although appearing to remain static, varied from region to region. An increased complaint activity in some regions, as well as increased public information dissemination reflects in part citizen concerns related to urea formaldehyde foam insulation.

More microwave ovens are in use in commercial food establishments. Inspections increased from 544 to 663.

The increase in the number of identified public water supplies of 279 over 160 is not a dramatic increase in municipal water treatment plants. It represents a change in recording procedure. This year, all public wells and those public water supply sampling points in Greater Winnipeg are included. The increase in inspections of 5,101 over 2,302 reflects collection of monitoring samples from these public wells and sampling points.

The number of subdivisions and simple land splits declined from 1,353 to 1,168.

An increase in private sewage disposal activity of 2,375 over 1,753 reflects a mandate in the amended regulation which requires authorization from the district inspector prior to a system being covered over.

Activity Summary

PROGRAMS	1981 Number of Establishments	Inspections	1982 Number of Establishments	Inspections
1. Food Service Establishments	1859	5510	1831	4745
2. Bathing Premises	326	1470	301	1563
3. Barber Shops & Beauty Parlors	605	551	606	531
4. Clean Environment Orders	32	162	22	96
5. Inter-Dept. & Inter-Gov't.	—	2506	—	2126
6. Citizen Complaints	—	7525		7442
7. Public Information	—	2978		4763
8. Non-Institutional Care Facilities	—	593	218	544
9. Industrial & Construction Camps	18	80	33	99
10. Hotels and Motels	454	595	402	577
11. Campgrounds	262	388	254	379
12. Recreational Camps	119	119	180	136
13. Microwave Ovens	485	554	670	663
14. Food Processing Plants	263	447	245	488
15. Retail Grocery and Food Warehouses	1155	1381	1092	1328
16. Food Borne & Communicable Disease	—	211	—	221
17. Public Water Supplies	160	2302	279	5101
18. Private Water Supplies	—	3696	—	4002
19. Waste Disposal Grounds	445	1216	432	1206
20. Private Sewage Disposal	—	1753	—	2375
21. Subdivisions & Land Splits	—	1353		1168
22. Livestock Production Operations	—	277		241
23. In-House Support Services	—	464		599

Environmental Management Services

Programs, Legislation and Training

Chief: R.A. Stephens
1 Planning Analyst
1 Environmental Engineer
1 Enforcement Development Officer

The role of the Programs, Legislation and Training Unit is to provide various support services to the Environmental Management Division of the Department.

Specifically, the services provided by Programs, Legislation and Training involve:

- the development and evaluation of programs in response to new or changing environmental and environmental health issues;
- co-ordinating the formulation and review of environmental legislation and regulations;
- the co-ordination and delivery of all inservice and extension training programs of the Division;
- the maintenance of an information system for the use of various levels of management within the Division; and
- the preparation of recommendations for governmental, departmental and divisional policy and strategy.

During 1982, Programs, Legislation and Training concentrated on regulation review and amendment, legislation development, in-service and extension training and enforcement assistance to operations.

In the area of program development, this unit developed and operated a pilot project for the development of a methodology to dispose of pesticide containers in a manner that is acceptable not only environmentally but also from a workplace safety and health perspective. A final report was prepared and discussions are being held with municipal corporations and industry to effect a province-wide solution to this problem.

The Unit has continued interdepartmental discussions to develop a co-operative approach to problems associated with the use of agricultural chemicals and has provided the Divisional input into the development of a Transportation of Dangerous Goods Act.

Programs, Legislation and Training has taken a lead role in the development of proposed legislation to deal with the environmental aspects of handling of dangerous goods in Manitoba as a part of the hazardous waste management program announced on November 5, 1982.

In the area of regulation review and development, work was undertaken to review and update existing regulations respecting Swimming Pools, Modified Pools and Non-conforming Pools (Filed June 27, 1980), and Red Meat under the Public Health Act, as well as the Waste Disposal Grounds and Incinerator regulations under the Clean Environment Act. Regulation review is generally conducted by a committee or staff respecting the various disciplines and sections involved in the relevant programs. Programs, Legislation and Training provides overall coordination, direction, program and enforcement input into this process. The review and amendments of the Food and Food Handling Regulations and Litter Regulations has continued and is approaching finalization.

Programs, Legislation and Training also serves all the extension and in-service training needs of the Environmental Management Division.

The Manitoba Water and Waste School was held at the University of Manitoba, Department of Civil Engineering, February 15-19, 1982. Enrollment for the 1982 school totalled 118 operators under the following breakdown.

a) First Year:
Introduction to water and wastewater treatment with emphasis on the application of Mathematics, Chemistry and Bacteriology.

   — 32 operators registered.

b) Second Year:
Specific instruction centered around water treatment plant operations including softening by ion-exchange and the lime soda ash process, iron removal, reverse osmosis, coagulation, sedimentation, filtration, chlorination and fluoridation.

   — 42 operators registered.

c) Third Year:
The major emphasis is on wastewater treatment plant operation dealing with lagoons, primary and secondary treatment. Laboratory instruction involves the evaluation of a secondary sewage treatment plant and the effect the treated wastes have on the receiving streams.

   — 44 operators registered.

   — 39 operators received Certificates of Achievement upon successful completion of the three year series.

The Manitoba Water and Waste Seminar is a 2½ to 3 day program which is different every year and is designed to introduce the operator to as much information as possible concerning the latest developments in the field of water and waste treatment.

Subjects presented in 1982 were:

- Ozonation in water treatment
- Flanging techniques for steel ductile and PVC pipe
- Asbestos in drinking water
- Operation of package water treatment plants
- Sewage lagoon treatment
- Centrifugal pumps
- $KMnO_4$ in water and wastewater treatment
- Operator safety
- Hazardous materials handling

One field trip was scheduled for the operators to view the Portage la Prairie Water Pollution Control Deep-Shaft treatment process; one of only two installations in Canada using this method to treat municipal sewage. Presentations were made by operators, manufacturers' representatives, technical sales personnel and provincial/federal employees. Speakers came from Portage la Prairie; Winnipeg; Corvalis, Oregon; Oakville and St. Thomas, Ontario; Edmonton, Alberta; and Chicago. A total of 140 operators were registered for the seminar in 1982.

Other extension courses conducted included Operator Safety in Swimming Pool Management, W.P.C.F. Level/Basic Course, and a continuous correspondence course on Water Treatment Plant Operation was given to several operators.

The objective of in-service training is to provide all professional/technical staff with the necessary upgrading and skill development required to ensure an adequate and effective level of program delivery. Seven in-service training sessions for staff of the Environmental Management Division were presented in 1982. Four of these courses were developed, co-ordinated and presented by Programs, Legislation and Training, while the remaining three were conducted by outside agencies.

In-service sessions held during 1982 included seminars on sewage treatment, visible emissions, laboratory safety, enforcement, waste management, and transparency preparation.

Environmental Impact Assessment

Chief: Norman Brandson
1 Environmental Officer

The role of the Environmental Impact Assessment section is to subject all proposed provincial government projects with potential for significant environmental impact to a comprehensive environmental review, prior to their proceeding. This is achieved by:

- maintaining contact with representatives of proponent government departments and agencies to ensure that consideration is given to all environmental factors while a project is in the planning stages;
- conducting an initial environmental evaluation (IEE) of provincial proposals by co-ordinating the expertise of government departments to document possible environmental impacts;
- recommending changes in the project which would eliminate adverse environmental impacts;
- recommending that a full environmental impact assessment be required if significant impacts are revealed by the IEE which cannot be otherwise mitigated;
- preparing draft project specific guidelines to assist the proponent develop an environmental assessment (EA);
- reviewing the EA and recommending appropriate follow-up to mitigate residual impacts and any other associated issues arising from the EA;
- co-ordinating public involvement, when required, in the review process.

During 1982, the Environmental Impact Assessment section continued to fulfill its mandate through the review of several provincial government projects, including highway relocations, transmission lines, and water regulation and diversion schemes.

In addition to providing a support function to the Manitoba Environmental Assessment and Review Agency, which administers the Environmental Assessment and Review Process, the Environmental Impact Assessment section strengthened the development of a joint environmental and land use planning review process. This joint review process was initiated during 1979 in response to a need for a mechanism through which projects of mutual interest to the Manitoba Environmental Assessment and Review Agency and the Interdepartmental Planning Board could be channelled. Under the process, the interdepartmental technical committee is appointed to work with the proponent in considering both environmental and land use matters

during project planning. Projects reviewed through this integrated process include the Mandan 500 KV Transmission Line, the Falcon Lake 230 KV Transmission Line and the Star Lake gold mining proposal.

A number of special projects were co-ordinated by this section including the underground research laboratory in Pinawa, Shoal Lake and mercury in the environment. As well, the Environmental Impact Assessment section carried on its responsibility for co-ordinating the Environmental Management Division's contribution to the Provincial Land Use Planning Process and provided Divisional support for environmental assessment related matters.

Environmental Standards and Studies

Chief: M. Morelli
1 Senior Consultant
3 Section Heads
21 Environment Officers
1 Data Reduction Clerk

Environmental Standards and Studies works within the context of long term planning to ensure protection of the Manitoba environment. Activities entail:

- establishing environmental quality objectives;
- assessing through technical studies, the current status of the environment;
- developing alternatives to resolve or mitigate environmental concerns;
- liaising with universities and other centres involved in research; and
- providing technical advice to the Clean Environment Commission regarding the classification of Manitoba surface waters.

During 1982, the activities of Environmental Standards and Studies were organized into three sections:

- Water Standards and Studies,
- Air Standards and Studies and Computer Services,
- Terrestrial Standards and Studies.

Water Standards and Studies Section

This section is responsible for the protection of the aquatic environment in Manitoba. It monitors surface waters, sediments and aquatic biota and provides data and consultative advice about the availability of surface water for domestic consumption, recreation, fisheries, industrial use and waste assimilation. The information is provided to government agencies, the Clean Environment Commission, municipalities, consulting firms and interested citizens. This section is also responsible for the development of water quality objectives for Manitoba and for recommending to the Clean Environment Commission, the classification of the Manitoba watersheds according to water use.

During 1982, 80 water quality stations were sampled on a regular basis and surface waters were monitored for basic chemical, physical and bacteriological parameters. In addition, biological and chemical samples were collected on the Assiniboine, Red, Souris and Winnipeg Rivers to relate biological community structure to chemical and physical quality of the surface waters. Fish and sediment at these stations were tested for biocide accumulation and the presence of heavy metals.

Trophic conditions of recreational lakes were measured in 52 lakes. Twenty-eight of these lakes were sampled by the public. The year long study of Big Whiteshell Lake was completed and a similar study of Betula Lake was commenced. An extensive water quality investigation of the Valley River, in co-operation with other government departments was commenced.

A number of site specific investigations were carried out in 1982 to assess the impact of industrial and municipal effluents on surface waters. These were as follows:

a) Virden — Gopher Creek

b) Falcon River

c) Roblin — Wood Preservative Plant

d) Atomic Energy of Canada, Underground Research Laboratory — Lee River

e) Effects of the Brandon Sewage Bypass on the Assiniboine River

f) Sherridon — Cold Lake

g) Effects of the Strathclair Lagoon on receiving waters

h) Rice Lake

Manitoba's surface water quality objectives were reviewed. This step is preliminary to the classification of watersheds.

The section published thirty-one technical reports and prepared an audio-visual presentation on Red River water quality. It responded to twenty-nine surface water quality complaints, completed thirty-five requests for water quality data and answered seventy-nine information inquiries related to surface water quality.

Air Standards and Studies and Computer Services

This section is responsible for determining ambient air quality and performing related studies, formulating appropriate air quality standards required to protect the environment and public health and providing necessary computer services to the Division.

The quality of air within the Province is monitored through two major ongoing activities: the National Air Pollution Surveillance (NAPS) program and the Impingement Monitoring program.

Within the Manitoba portion of the NAPS program, general urban air quality was monitored in Winnipeg and Brandon. Within the Winnipeg area, three extensive air monitoring stations measured levels of sulphur dioxide, carbon monoxide, ozone, nitrogen dioxide, total suspended particulate and lead on a continuous basis. Two other sites in Winnipeg and one in Brandon provided information on total particulate and lead. Sulphation and dustfall deposition rates were monitored at five stations in Winnipeg. Background conditions, relative to Winnipeg, were determined at Morden and St. Francois Xavier.

Air quality studies near specific air pollution sources were carried out within the Manitoba Impingement Monitoring program. In 1982, monitoring activities were continued in the vicinity of the following: Shell Oil Refinery at St. Boniface (sulphur dioxide and hydrogen sulphide at two sites), Manitoba Forestry Resources at The Pas (hydrogen sulphide), Hudson Bay Mining and Smelting Co. Ltd., Flin Flon (sulphur dioxide at two sites), INCO at Thompson (sulphur dioxide) and Brandon Industrial Park (major air pollutants, including ammonia).

The mobile monitoring unit and associated testing equipment was received in early 1982. This unit was used to undertake several projects. Development for its use in the field for detailed monitoring in response to accidents is continuing. Other monitoring projects undertaken during the year were:

a) lead levels in the vicinity of Winnipeg's secondary lead smelters;

b) air quality in the McIvor Avenue area of Winnipeg;

c) heavy metal in air levels at Sherridon;

d) ammonia in air levels in the vicinity of Simplot Chemicals;

e) standardization and expansion of precipitation quality monitoring (5 sites).

Ambient air quality guidelines were researched and proposed for ammonia and hydrogen chloride; odour is under review and a guideline for sulphuric acid mist is being developed. Other support activities included emission inventories of air contaminants and the application of dispersion models to estimate the concentrations of air pollution in the vicinity of sources.

The computer services program during 1982 primarily involved support maintenance activities towards the Division's inventory of operational systems (including the air telemetry system). Some development was undertaken for statistical packages and data base implementation.

Terrestrial Standards and Studies

The Terrestrial Standards and Studies Section was formally established in 1982. This section is responsible for environmental concerns of the land environment and conducts programs to monitor and study vegetation, soil and animals for the determination of environmental impact from various contaminants or industrial development. The information generated is provided to the Environmental Management Division, the Clean Environment Commission, government agencies and other interested parties.

The programs of the section include the continued study of air emission effects from northern mining smelters on the forest ecosystems in the Thompson and Flin Flon areas. Selected components from this study have been expanded to address the Long Range Transport of Air Pollutants (LRTAP) or acid rain. The section participated in the development of a divisional acid rain presentation and participates with Western Canada on national acid rain developments. It also responded to numerous requests for information and audio-visual presentations.

The study of lead deposition in the city of Winnipeg continued with the removal and replacement of lead contaminated sod and soil in the Weston area. In 1982, the program was expanded to include surveys of lead in soil and dog blood at Thompson and Flin Flon. In addition, associated research into lead particle speciation was conducted with Atomic Energy of Canada at Pinawa in an attempt to differentiate lead particles found in the urban environment to their particular source of emission. The research involved surveys for lead particulates deposition in the vicinity of secondary lead smelters and in areas of varying traffic density in the city of Winnipeg.

In northern Manitoba, the study of the effects of liquid mining effluent discharged from Spruce Point Mine into a local marsh disposal site continued. This study was initiated in 1981 to ensure effluent did not flow back to Reed Lake and results to 1982 were prepared and released in a status report. In addition, a study of mercury and lead accumulation in blueberry communities found in the vicinity of the mining smelter at Flin Flon continued.

A preliminary study of mercury contamination in aquatic carnivores was completed and a report released in 1982. This study showed that monitoring of mercury through fish-eating mammals is a viable, sensitive and inexpensive method. As a result, the study is being gradually expanded to monitor additional areas of the province.

The study of small mammal effects from northern mining smelters continued in 1982 with four areas being sampled: Thompson, Flin Flon, Minago and Cat Lake. Also continued, were studies of fluoride accumulations in deer of the Bird's Hill Park area and updating of the Pesticide Bibliography. The survey of lead in dog blood initiated in the city of Winnipeg in 1981 was expanded to include sampling from the Thompson and Flin Flon areas.

A number of terrestrial assessments in response to site specific requests for information from industrial operations were conducted in 1982. These include:

a) an investigation of soil contamination from a wood preservative plant;

b) participation in PCB investigations in the Point Douglas area;

c) a review of environmental effects from the petroleum industry;

c) an assessment of a proposed peat industry development in a peat bog area.

The section also responded to eleven site specific complaints related to terrestrial quality. In addition, the section responded to numerous information inquiries related to the terrestrial environment.

W.M. Ward Technical Services Laboratory

Chief: W.T. Grieve
3 Section Heads
14 Chemists
1 Biologist
23 Technologists
1 half-time Technologist
1 Support Staff

The W.M. Ward Technical Services Laboratory is organized into three major sections which include Methods and Standards, Inorganic Analysis, and Organic Analysis. In addition, there is a small limnology and microscopy sub-section, formed since the laboratory moved to its present location in December of 1980.

Each of the following functions are performed:

- accepting samples from the Department of Environment, Workplace Safety and Health, and other departments within the Manitoba government, private citizens, the City of Winnipeg, the RCMP, and the Government of Canada;
- routinely testing various parameters to determine the status and impact of pollutants on the Manitoba environment;
- undertaking special testing in the event of abnormal circumstances such as over-spraying of pesticides or herbicides, accidental spills, suspected arson, alleged solvent abuse, and misuse of purple gasoline;
- developing test procedures and ensuring the accuracy of results;
- participating in national and international reference sample exchange programs;
- consulting to assist in the establishment and enforcement of waste disposal regulations as well as water and sewage treatment standards; and
- testifying in court cases whenever laboratory test results are submitted as evidence.

During 1982, the W.M. Ward Technical Services Laboratory accepted 27,882 samples and performed 157, 433 analyses. The Environmental Management Division submitted 53.4 per cent of these samples which accounted for 54 per cent of the total number of analyses. These tests primarily assisted in the establishment and enforcement of environmental standards.

The Workplace Safety and Health Division submitted 14.1 per cent of samples or 5.6 per cent of analyses. These were entirely involved with various workplace health problems and programs.

1982 Annual Work Load Summary

Clients	No. of Samples	No. of Analyses	DBSU	Cost
I Department of Environment; Workplace Safety and Health				
1. Environmental Management Division				
A. Environmental Standards and Studies				
a) Terrestrial Studies	2,280	14,773	142,809	71.5
Development and Consultation			35,000	17.5
b) Air	4,148	11,220	111,193	55.7
Development re: Telemetry acid precipitation and MMU			45,000	22.5
c) Water	3,586	27,834	533,329	266.8
Development and Consultation			35,000	17.5
B. Environmental Control				
a) Air	144	264	10,991	5.5
b) Water	3,121	19,408	260,505	130.4
Development and Consultation			20,000	10.0
c) Inspection Services	1,051	10,022	94,778	47.5
Consultation			10,000	5.0
d) Waste Management	563	1,505	121,859	61.0
Development re: PCB problems			20,000	10.0
e) Food Control	8	2	879	0.4
C. Workplace Safety and Health Division	3,944	8,804	129,242	64.7
Development and Consultation, e.g., Silica			60,000	30.0
D. Clean Environment Commission	5	66	742	0.4
TOTALS: (Departmental)	18,850	93,898	1,631,327	816.5

	Clients	No. of Samples	No. of Analyses	DBSU	Cost
II	Department of Agriculture				
	1. Water Services Board	1,909	19,945	114,399	57.3
	Consultation			5,000	2.5
	2. General	704	6,227	54,107	27.1
III	Department of Natural Resources				
	1. Water Resources Branch	1,806	11,874	73,146	36.2
	Consultation			8,000	4.0
	2. Fisheries Branch	189	1,014	12,079	6.1
IV	Department of Finance	807	821	45,045	22.6
	Analytical Development			10,000	5.0
V	Department of Government Services	85	666	9,952	5.0
VI	Department of Labour	150	150	23,071	11.6
	Consultation			15,000	7.5
VII	Department of Health	443	443	7,007	3.5
	Consultation and Development re: Mercury in Hair			2,000	6.0
VIII	Department of Mines	154	642	13,120	6.7
IX	Manitoba Research Council	10	76	15,033	7.6
	Consultation and Development			15,000	7.5
X	General Public	1,789	18,367	138,936	70.0
	Consultation re: Problems			45,000	22.5
XI	Private Doctors	244	279	3,705	1.9
XII	R.C.M.P.	50	105	5,651	2.9
XIII	City of Winnipeg Police	8	8	1,335	1.8
XIV	City of Winnipeg (Laboratory Services)	63	234	7,031	3.6
XVI	Government of Canada	621	2,684	38,655	19.4
	Consultation			10,000	5.0
	Miscellaneous — Special Consultation				147.2
	Training Course, Staff Turnover, etc.			294,226	
	TOTALS:	27,882	157,433	2,607,825	1,305.5

Administration Branch

Director: W.K. Boehm
2 Personnel Administration Staff
2 Library Staff
8 Financial and Management Support Services Staff
12 Word Processing and Secretarial Support Services Staff

The Administration Branch provides central administrative support services to the Department of Environment and Workplace Safety and Health in the areas of:

- Personnel and Payroll (recruitment, selection, documentation, salary administration, payroll, performance appraisal);
- Financial Services (accounts processing, financial reporting, estimates preparation, commitment monitoring, accountable advances);
- Management Support Services (vehicles, office space and equipment, inventory control).

The Administration Branch also oversees the functioning of the Environmental Management Library, along with satellite libraries located at the W.M. Ward Technical Services Laboratory and at Workplace Safety and Health Head Office. In addition, this Branch provides word processing and secretarial support services to the Environmental Management Division and the Manitoba Environmental Council.

An additional function of the Branch is to provide advice and support to the Minister/Deputy Minister, and other Departmental Management staff with respect to administrative matters, in particular, ensuring that Government regulations, procedures and policies respecting administration are adhered to.

Community Relations Branch

Director: Mark Stefanson
1 Information Officer
1 Support Staff

The Community Relations Branch is responsible for the communications, education and public participation function of the Environmental Management Division and Workplace Safety and Health Division. The Branch assumed responsibility for the communications function of the Workplace Safety and Health Division in 1982.

The Branch's basic objectives are to foster increased public awareness and appreciation for environmental, workplace safety and health concerns and to improve education in these areas. Another of the Branch's goals is to ensure maximum public involvement and participation in departmental programs.

To accomplish these objectives, the Community Relations Branch performs the following activities:

- writes and distributes pamphlets, news releases and other informational material;
- communicates through all forms of mass media;
- develops and staffs displays;
- coordinates production of audio/visual presentations;
- coordinates departmental public participation programs;
- organizes emergency communications for the public and news media during environmental accidents; and,
- assists in the development of programs and policy for the department.

During 1982, the Community Relations Branch was extensively involved in planning the province's Hazardous and Special Waste Management Program, which was announced in November. The Branch designed the public participation plan for the new program and assisted with preparations for the March 1983 Manitoba Symposium on Hazardous and Special Wastes. The Branch also coordinated the development of information materials for this program. This included a display, brochure, an audio/visual presentation and a bibliography.

Another major project for the Branch was National Environment Week. The Community Relations Branch coordinated the Manitoba effort, in cooperation with Environment Canada and the Manitoba Environmental Council. Manitoba's activities inlcuded a kick-off event, school outreach program, media campaign and mall display. The display, entitled "Protecting our Environment" was also featured at the School of Nursing at the St. Boniface Hospital during a two-week series of lectures on environment and health.

The Community Relations Branch developed an information release policy and program for the department in 1982. This included the preparation of all departmental news releases and the distribution of all departmental publications and other informational material. In response to public request, a total of 5500 pamphlets and other material was distributed. An extensive mailing list was also developed.

A new Environmental Information Pamphlet Series was finalized in 1982. The new series, to be released in the spring of 1983, covers a wide variety of environmental topic areas. The Branch also prepared the department's 1981 Annual Report. In addition, the Branch arranged for French translation of several pamphlets.

The Community Relations Branch assisted with development and coordination of a multi-media advertising campaign for the newly-created Worker Advisor Office. An advertising and media campaign was also prepared for the Workplace Safety and Health Advisory Council public meetings held in November.

The Community Relations Branch assisted department personnel in responding to concerns about PCBs of the North Point Douglas Residents' Committee. This involved attending public meetings and preparing an information pamphlet on PCBs.

In addition, the Branch handled media-liaison for all major environmental accidents in 1982, including the January 10 train derailment in Austin. The Branch also began work on an audio/visual presentation about the department's environmental emergency response team.